

A high-level monthly briefing on operations and activities at the U.S. Department of Energy's Idaho National Engineering and Environmental Laboratory – Home of Science and Engineering Solutions. Work at the lab supports the Department's business lines of environmental quality, energy resources, national security and science.

■ ENERGY RESOURCES – Lab to Help Boost Industrial Energy Efficiency

The INEEL is part of two national teams of research institutions that have been selected to develop the technologies needed to dramatically boost the energy efficiency of U.S. industry. In the first instance, a team will carry out a project, known as Energy SMARTT, that seeks to improve existing efficiencies dramatically, while developing breakthrough technologies to revolutionize casting production. The second team involving the INEEL will employ an innovative powder manufacturing process to develop fully consolidated nanocrystalline cemented tungsten carbide materials for multiple industrial sectors, including metalworking, mining, chemicals, and oil and gas exploration. Energy savings will be realized through more efficient powder processing and consolidation, and through increased tool life and reduced down time. Three-year funding for the two projects exceeds \$25 million.

■ ENVIRONMENTAL QUALITY – New Collaboratory Examines Ecological Issues

During 2003, the Idaho National Engineering and Environmental Laboratory and other institutions founded the Pacific Northwest Regional Collaboratory – whose primary objective is to chronicle ecological conditions and associations that need to be considered in land use and resource protection measures. By accessing, comparing and analyzing NASA satellite imagery and other earth science data, the group aims to help resource managers and decision-makers deal with serious land, water and sustainable development issues. Collaboratory partners include the INEEL, Idaho State University, University of Idaho, Pacific Northwest National Laboratory, University of Washington and Oregon State University.

■ NATIONAL SECURITY – INEEL Continues Training First Responders

The National Security Division has teamed with West Desert Test Center, Dugway Proving Ground, Utah to offer training expertise and optimal training environments on safe response to threats from potential chemical, biological and radiological weapons. The INEEL now offers comprehensive classroom and realistic field training to military units, regional law enforcement and National Guard Weapons of Mass Destruction Civil Support Teams. The laboratory leveraged its over 50 years of radiological experience to add the radiological component to Dugway's chemical and biological courses. Instructors have conducted field exercises on all WMD threats at the INEEL, using its city-like infrastructure to provide realistic training in a safe, remote and secure environment. More than a dozen classes and exercises have been conducted at facilities in Utah and on the INEEL's Critical Infrastructure Test Range.

■ SCIENCE – Education Volunteer Cited

Ali Siahpush, an advisory engineer/scientist in the Sustainable Buildings/Applied Mechanics Department, has received the 2003 INEEL Education Volunteer of the Year award. The award is given to an employee who demonstrates outstanding dedication to pre-college (K-12) education and generously volunteers personal time toward encouraging young people to learn about science, mathematics, engineering or technology. Siahpush is well known for his involvement in "Pathway to Mars" workshops for teachers and in Utah State University's Physics Day at Lagoon.

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